

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of claims:

1. (Previously presented) A filter device for the depletion of the leukocyte content from a blood product, comprising

a housing having an inlet and an outlet and, within said housing, more than two porous elements configured to remove leukocytes, each of said porous elements including one or more layers of a filtering material and each of said porous elements having a different hydrophilicity,

said more than two porous elements being arranged in the filter device such that any of said porous elements has a higher hydrophilicity than a successive porous element in a direction of flow, from said inlet to said outlet, of said blood product through said filter device,

said more than two porous elements including an inlet porous element having a construction of material having a hydrophilicity as measured by a CST or a CWST value of the filtering material that is higher than 63 dyn/cm, and

a difference between the hydrophilicity of the inlet porous element and a final outlet porous element, as measured by the CST or the CWST value of the filtering material, that is at least 10 dyn/cm.

2. (Canceled)

3. (Previously presented) The filter device according to claim 1, wherein each of said porous elements includes at least two adjacent layers of said filtering material.

4. (Previously presented) The filter device according to claim 3, wherein said at least two adjacent layers of filtering material have a construction of a same material having identical hydrophilicity properties.

5. (Previously presented) The filter device according to claim 3, wherein said at least two adjacent layers have a decreasing pore size from said inlet to said outlet.

6. (Previously presented) The filter device according to claim 1, wherein any of said porous elements has a construction of the filtering material having a pore size larger than the pore size of the successive porous element.

7. (Previously presented) The filter device according to claim 1, wherein said porous elements have a construction of fibers of a polymeric material selected from the group consisting of polyester, polyolefines, polyamide and polyester, and polyolefines or polyamides coated with a hydrophilic polymer, or mixtures of said fibers.

8. (Previously presented) The filter device according to claim 7, wherein said hydrophilic polymer is selected from the group consisting of hydrophilic acrylic polymers or copolymers, and hydrophilic polyurethane.

9. (Currently Amended) A filter device comprising at least a first porous element having a construction of layers of polybutylenterephthalate fibers coated with a hydrophilic polymer or a copolymer, and a second porous element having a construction of uncoated polybutylenterephthalate or polypropylene layers,

said first and second porous elements being adapted for a housing having an inlet and an outlet, with a flow direction of a blood product through said filter device being from said inlet to said outlet;

each of said first and second porous elements (i) being configured to remove leukocytes, (ii) having at least two adjacent layers of a filtering material and, (iii) having a different hydrophilicity relative to one another,

said first and second porous elements being adapted for being arranged in the filter device such that, in said flow direction, each of said porous elements has a higher hydrophilicity than a successive porous element,

said first and second porous elements including an inlet porous element adapted for being located closest to said inlet having a construction of material having a hydrophilicity, as measured by a CWST value of the filtering material, that is at least 53 dyn/cm, and

a difference between the hydrophilicity of the inlet porous element and a final outlet porous element located closest to said outlet, as measured by the CWST value of the filtering material, that is about 20 dyn/cm.

10. (Previously Presented) The filter device according to claim 1, wherein said porous elements are arranged in the filter device according to a decreasing value of the CST or the CWST of the filtering material, from said inlet to said outlet.

11. (Canceled)

12. (Previously Presented) The filter device according to claim 1, wherein the difference between the hydrophilicity of the inlet porous element and the final outlet porous element, as measured by the CST or the CWST value of the filtering material, is from 10 to 20 dyn/cm.

13. (Canceled)

14. (Previously presented) The filter device according to claim 1, further comprising within said housing one or more filter elements of any hydrophilicity which are not configured for leukocyte removal.

15. (Previously presented) The filter device according to claim 14, wherein said filter elements not configured for leukocyte removal are located closer to the inlet than said elements configured for leukocyte removal.

16. (Previously presented) A blood bag device for the separation of blood into leukocyte depleted blood components, said device comprising at least a first bag connected in fluid flow communication with a second bag through a leukocyte filter device according to claim 1.

17. (Previously presented) A method for the leukocyte depletion of a blood product, said method comprising feeding said blood product through a filter device according to claim 1.

18. (Previously presented) The method according to claim 17, wherein said blood product is selected from the group consisting of whole blood, platelet-rich plasma, packed red cells, platelet concentrate, and plasma.

19. (Previously presented) The filter device according to claim 14, wherein said filter elements not configured for leukocyte removal are gel filtration elements or microaggregate filtration elements.

20. (Previously presented) A filter device for depleting leukocyte content from a blood product, comprising:
a housing having an inlet and an outlet, with a flow direction of said blood product through said filter device being from said inlet to said outlet; and
more than two porous elements disposed within said housing, each of said porous elements (i) being configured to remove leukocytes, (ii) having at least two adjacent layers of a filtering material, and (iii) having a different hydrophilicity relative to one another,
said more than two porous elements being arranged in the filter device such that, in said flow direction, each of said porous elements has a higher hydrophilicity than a successive porous element,

said more than two porous elements including an inlet porous element located closest to said inlet having a construction of material having a hydrophilicity, as measured by a CWST value of the filtering material, that is at least 53 dyn/cm, and a difference between the hydrophilicity of the inlet porous element and a final outlet porous element located closest to said outlet, as measured by the CWST value of the filtering material, that is about 20 dyn/cm.

21. (Previously presented) The filter device according to claim 20, wherein said filter device has a decreasing hydrophilicity profile from the inlet porous element to the final outlet porous element.